What is claimed is:

1. A method of operating an FT-IR microscope in association with a scanning spectrometer wherein incremental movement of the movable stage of the microscope is synchronised with the scans of the scanning spectrometer.

2. A method of operating an FT-IR microscope according to claim 1 wherein the movement of the movable stage of the microscope is synchronized with the end of each spectrometer scan.

3. A method of operating an FT-IR microscope according to claim 1 or claim 2 wherein scanning of the spectrometer is arranged to operate continuously.

4. A method of operating an FT-IR microscope according to any preceding claim wherein the microscope is a single detector or small detector array type microscope.

5. *A* system for carrying out FT-IR spectroscopy using a scanning spectrometer and an FT-IR microscope with a movable stage wherein the system is so arranged that incremental movement of the movable stage is synchronised with the scan of the scanning spectrometer.

6. A system according to claim *5,* wherein the movement of the movable stage is synchronized with the end of each spectrometer scan.

7. A system according to claim *5* or claim 6 wherein the scanning spectrometer is arranged to operate continuously.

8. A system according to any one of claims 5 to 7 wherein the microscope is a single detector or a small detector array type microscope.

9. A system according to any one of claims 5 to 8 including a scan controller for controlling the scanning of the spectrometer, a data collector for producing signals from the detector or detectors of the microscope, a stage controller for controlling movement of the microscope stage and a master controller for controlling the functions of the scan controller, data collector and stage controller.

10. A system according to claim 9, wherein the end of a scan is signaled to the stage controller by a signal generated by the scan controller and transmitted to the stage controller via the data collector.